

# FPL 25 Reading List

## Highlighting Significant Contributions from 25 Years of the International Conference on Field Programmable Logic and Applications (1991–2014)

The first International Conference on Field-Programmable Logic and Applications (FPL) was held in 1991 at Oxford University. In the ensuing years, it has become the largest meeting on field-programmable gate array (FPGA) technologies and systems, and many important contributions have been published at the conference. Below are listed the most significant contributions from 1991 to 2014. The selection was made by an international Significant Papers Committee (SPC), as described in [this article](#), where the endorsements are detailed.

### 1993

#### **Dynamic reconfiguration of FPGAs**

Patrick Lysaght and John Dunlop

*Dynamic Reconfiguration*

### 1995

#### **[An assessment of the suitability of FPGA-based systems for use in digital signal processing](#)**

Russell J. Petersen, Brad L. Hutchings

*Applications and Benchmarks*

### 1996

#### **[RaPiD - reconfigurable pipelined datapath](#)**

C. Ebeling, D.C. Cronquist and P. Franklin

*Architecture*

#### **[A virtual hardware operating system for the Xilinx XC6200](#)**

C. Ebeling, D.C. Cronquist, P. Franklin

*Dynamic Reconfiguration*

### 1997

### **VPR: A new packing, placement and routing tool for FPGA research**

Vaughn Betz and Jonathan Rose

*Design Methods and Tools*

## 1999

### **SONIC - a plug-in architecture for video processing**

Simon D. Haynes, Peter Y. K. Cheung,  
Wayne Luk, John Stone

*Applications and Benchmarks*

## 2000

### **Multitasking on FPGA Coprocessors**

Harald Simmler, L. Levinson and Reinhard Männer

*Applications and Benchmarks*

### **Stream Computations Organized for Reconfigurable Execution (SCORE)**

Eylon Caspi, Michael Chu, Randy Huang, Joseph Yeh, John Wawrzynek and André DeHon

*Architecture*

### **StReAm: Object-Oriented Programming of Stream Architectures Using PAM-Blox**

Oskar Mencer, Heiko Hübert, Martin Morf and Michael J. Flynn

*Design Methods and Tools*

## 2002

### **A Flexible Power Model for FPGAs**

Kara K. W. Poon, Andy Yan, Steven J. E. Wilton

*Architecture*

### **Granidt: Towards Gigabit Rate Network Intrusion Detection Technology**

Maya Gokhale, Dave Dubois, Andy Dubois, Mike Boorman, Steve Poole, Vic Hogsett

*Security and Network-on-Chip*

## 2003

### **A Smith-Waterman Systolic Cell**

Chi Wai Yu, K. H. Kwong, Kin-Hong Lee, Philip H. W. Leong

*Applications and Benchmarks*

### **ADRES: An Architecture with Tightly Coupled VLIW Processor and Coarse-Grained Reconfigurable Matrix**

Bingfeng Mei, Serge Vernalde, Diederik Verkest, Hugo De Man, Rudy Lauwereins

**Virtualizing Hardware with Multi-context Reconfigurable Arrays**

Rolf Enzler, Christian Plessl, Marco Platzner

*Dynamic Reconfiguration*

**Networks on Chip as Hardware Components of an OS for Reconfigurable Systems**

Théodore Marescaux, Jean-Yves Mignolet, Andrei Bartic, W. Moffat, Diederik Verkest, Serge Vernalde, Rudy Lauwereins

*Security and Network-on-Chip*

**Fast, Large-Scale String Match for a 10Gbps FPGA-Based Network Intrusion Detection**

**System**

Ioannis Sourdis, Dionisios N. Pnevmatikatos

*Security and Network-on-Chip*

## 2004

**A Dual-VDD Low Power FPGA Architecture**

Aman Gayasen, K. Lee, Narayanan Vijaykrishnan, Mahmut T. Kandemir, Mary Jane Irwin, Tim Tuan

*Architecture*

**The Impact of Pipelining on Energy per Operation in Field-Programmable Gate Arrays**

Steven J. E. Wilton, Su-Shin Ang and Wayne Luk

*Design Methods and Tools*

## 2005

**Context Saving and Restoring for Multitasking in Reconfigurable Systems**

Heiko Kalte and Mario Porrmann

*Dynamic Reconfiguration*

## 2006

**Enhanced Architectures, Design Methodologies and CAD Tools for Dynamic**

**Reconfiguration of Xilinx FPGAs**

Patrick Lysaght, Brandon Blodget, Jeff Mason, Jay Young and Brendan Bridgford

*Design Methods and Tools*

## 2007

**Physical Unclonable Functions, FPGAs and Public-Key Crypto for IP Protection**

Jorge Guajardo, Sandeep S. Kumar, Geert Jan Schrijena and Pim Tuyls

## 2008

### **ReCoBus-Builder - A novel tool and technique to build statically and dynamically reconfigurable systems for FPGAs**

Dirk Koch, Christian Beckhoff and Jürgen Teich

*Dynamic Reconfiguration*

## 2009

### **Performance comparison of FPGA, GPU and CPU in image processing**

Shuichi Asano, Tsutomu Maruyama and Yoshiki Yamaguchi

*Applications and Benchmarks*

### **FPGA partial reconfiguration via configuration scrubbing**

Jonathan Heiner, Benjamin Sellers, Michael J. Wirthlin and Jeff Kalb

*Dynamic Reconfiguration*

## 2010

### **FPGA Implementations of the Round Two SHA-3 Candidates**

Brian Baldwin, Andrew Byrne, Liang Lu, Mark Hamilton, Neil Hanley, Mire O'Neill, William P. Marnane

*Applications and Benchmarks*

## 2013

### **Accelerating Solvers for Global Atmospheric Equations Through Mixed-Precision Data Flow Engine**

Lin Gan, Haohuan Fu, Wayne Luk, Chao Yang, Wei Xue, Xiaomeng Huang, Youhui Zhang, Guangwen Yang

*Applications and Benchmarks*

### **The Power of Communication: Energy-Efficient NoCs for FPGAs**

Mohamed Abdelfattah and Vaughn Betz

*Security and Network-on-Chip*